

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)

Inquiry Concerning the)
Deployment of Advanced Telecommunications)
Capability to All Americans in a Reasonable)
and Timely Fashion, and Possible Steps to)
Accelerate Such Deployment Pursuant to)
Section 706 of the Telecommunications)
Act of 1996)

GN Docket No. 04-54

COMMENTS OF ECHOSTAR SATELLITE LLC

EchoStar Satellite LLC (“EchoStar”) is pleased to submit its comments in response to the above-referenced Notice of Inquiry released by the Commission on March 17, 2004.¹ The Notice requests comments concerning the availability of broadband service and whether it is being deployed to all Americans, particularly those in rural, tribal, and low income areas, among other matters. The Notice also seeks comment on what can be done to accelerate broadband deployment.²

EchoStar is a provider of Direct Broadcast Satellite (“DBS”) service, with nine satellites capable of providing more than 500 channels of digital video and audio to its more than 9 million subscribers. As the Commission is aware, EchoStar has long been a proponent of broadband service using satellites, particularly as a means of eliminating the gap in broadband

¹ *In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, GN Docket No. 04-54 (rel. Mar. 17, 2004) (“Notice” or “NOI”).

² See NOI at ¶ 10.

access that exists between urban and rural areas. While the most recent Commission data appear to reflect some gains in the availability of broadband service in rural areas, the data demonstrate that a significant gap still exists, meaning that much remains to be done to make broadband available to all Americans. Further, with respect to more populous, as well as rural areas, there is room for improvement in terms of encouraging competition among broadband providers. Commission data show that many areas of the country still report having only one broadband service provider. Deployment of broadband via satellite, with satellite systems' nationwide footprint, will instantly create an additional competitor in every market.

Broadband service is extremely spectrum intensive and the successful rollout of nationwide broadband will likely require spectrum resources far in excess of what is now available to EchoStar. EchoStar is currently engaged in several efforts to address some of the spectrum constraints that have hindered the development of satellite broadband, to make true satellite broadband service a reality in the not too distant future.

I. THE MOST RECENT DATA SHOW MUCH ROOM FOR IMPROVEMENT IN THE DEPLOYMENT OF BROADBAND DEPLOYMENT TO AMERICANS

A. Broadband Deployment To Rural Areas Is Still Lagging

The Commission reports that the gap between the number of reported high-speed and advanced service lines in urban and rural areas has shrunk in the last year.³ While this reflects some progress, the Commission's most recent data reflect that by any measure, the broadband revolution is far from reaching every corner of America – nearly 10% of U.S. zip

³ See *id.* at ¶ 30. The Commission has defined “advanced services” as those with transmission speeds greater than 200 kbps in each direction, and “high-speed” services as those with speeds exceeding 200 kbps in only one direction. See *id.* at ¶ 11.

codes still report having *no* high speed lines in service, with most of these areas being concentrated in less populous states.⁴

B. Competition Among Broadband Platforms In Many Areas Is Lagging As Well

In many of the areas that do at least have high-speed lines, there is only one provider. In fact, over 16% of U.S. zip codes report having only one provider.⁵ This means that people in these areas do not enjoy the benefits of competition among broadband providers. The data show that there is also room for improvement even in areas with more than one broadband provider. Cable modems and DSL have an utter lock on the market for broadband service. A whopping 90% of all high-speed Internet access is provided by cable and DSL, primarily by dominant incumbent cable and telephone companies.⁶ In contrast, technologies such as fixed wireless and satellite, combined, make up less than one percent of broadband service lines.⁷

⁴ See “High-Speed Services for Internet Access: Status as of June 30, 2003,” Industry Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission (December 2003) (“2003 Broadband Report”), Table 12 (reflecting that 9% of U.S. zip codes report having no high-speed Internet service providers) and Table 13 (showing, for example, that 32% of the zip codes in South Dakota, 25% of the zip codes in Montana, 24% of the zip codes in Iowa, 22% of the zip codes in Kentucky, and 22% of the zip codes in Nebraska, report having no high-speed service lines).

⁵ See *id.*, Table 12.

⁶ See *id.*, Tables 1 and 2 (of the 39,787,067 high speed and advanced service lines reported as of June 2003, 25,620,091 (64%) were cable modem lines and 10,211,482 (nearly 26%) were asymmetric DSL, for a total of 90% of all such lines); see also *id.* Table 5 (reporting that regional Bell operating companies are by far the largest providers of DSL lines).

⁷ See 2003 Broadband Report, Tables 1 and 2 (only 373,399 of the 39,787,067 total high speed and advanced service lines were fixed wireless and satellite).

C. Advanced Services Continue to Be Less Broadly Deployed Than Slower Services

Broadband services with upstream and downstream transmission speeds of greater than 200 kbps, which the Commission refers to as “advanced services,” continue to be far less widely deployed than those the Commission refers to as “high speed,” i.e., with 200 kbps speed in only one direction. Advanced services lines make up less than half of the broadband lines in service.⁸ Thus, while the Commission noted that there was healthy growth in the number of advanced services subscribers in the past year, the data show that the coverage is far from complete.

II. SATELLITE BROADBAND SERVICE OFFERS PROMISING HOPE FOR FILLING THE GAPS IN BROADBAND DEPLOYMENT

Satellite broadband service represents one of the most promising hopes for exponential added improvement in the provision of broadband service. First, the advent of satellite broadband will allow those in danger of being completely left out of the broadband revolution to gain broadband access. As the Commission has previously observed, the distance-sensitivity that is characteristic of terrestrial services such as coaxial cable and DSL, and the attendant expense of deploying last-mile connectivity in sparsely populated areas, results in a cluster of broadband deployment that has been, and continues to be, concentrated in areas of high population density.⁹

Significantly, the Commission’s last advanced services report cited studies that put the number of homes that may never have access to cable modem or DSL service at 20-30

⁸ See *id.*, Table 2.

⁹ See *id.* at 4 and Table 14 (99% of the most densely populated zip codes have high-speed service, while nearly a third of the least densely populated zip codes report having no high speed lines).

million.¹⁰ Although the Commission has noted growth in deployment of DSL by small telephone companies in the last two years,¹¹ the economic reality is that many of the “broadband disenfranchised” are likely to be in rural areas.

Satellite systems are especially well-suited for the provision of broadband service to rural and other underserved areas because satellites can offer nationwide, ubiquitous service at prices that are distance insensitive, unlike cable and DSL. These advantages allow satellite operators to provide first- and last-mile connectivity more cost effectively than terrestrial systems. Once satellite systems are launched and operational, such systems can offer instantaneous deployment of high-quality broadband service to low population density areas, as well as low income areas that may not have sufficient demand to justify a terrestrial buildout. Thus, satellite systems can make broadband a reality for the tens of millions of homes that may never have access to cable modem or DSL service.

For the same reasons, satellite systems will offer instantaneous competition in the significant number of areas that have only one broadband provider, allowing people in those areas to enjoy the many benefits of having freedom of choice among broadband providers. And just as important, in areas that do have more than one service provider, satellite broadband systems will bring an added competitive jolt to markets now dominated by incumbent cable and telephone companies.

¹⁰ See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, CC Docket No. 98-146, Third Report, 17 FCC Rcd. 2844 (2002), at ¶ 78 (citing studies by Salomon Smith Barney and Merrill Lynch).

¹¹ See NOI at ¶ 31.

Finally, next-generation satellite systems have the potential to boost deployment of advanced services by bringing true broadband service to all areas. Present-day satellite Internet access offerings still suffer from significant constraints that will likely limit their long-term viability, especially in light of consumer expectations for faster, more advanced broadband capability. Chief among these constraints are the slower transmission speeds of these systems, which cannot exceed 200 kbps in both directions, and capacity constraints in the already heavily utilized Ku-band, which result not only in operational limits on the number of broadband subscribers that can be served, but more fundamentally, limit the number of transponders that can efficiently be devoted to broadband service in the first place.¹²

III. WHAT THE COMMISSION CAN DO TO HELP ACCELERATE THE DEPLOYMENT OF SATELLITE BROADBAND SERVICE

Advanced services are spectrum intensive, especially if they must accommodate the ubiquitous deployment of millions of small transmit/receive earth station antennas for users of the broadband service, each of which places an additional toll on the available bandwidth. Accordingly, one of the first hurdles to be overcome is the identification of adequate spectrum to accommodate them.

The Notice asks what can be done to accelerate the deployment of advanced services.¹³ The Commission can help accelerate the deployment of advanced services by approving, expeditiously, a number of proposals that have been put forth to make such services available by allocating additional spectrum for them through facilitating more efficient use of

¹² See Applicants' Opposition to Petitions to Deny and Reply Comments, *In the Matter of Applications of EchoStar Communications Corporation, General Motors Corporation, Hughes Electronics Corporation, for Authority to Transfer Control*, CS Docket No. 01-348 (dated Feb. 25, 2002), at 92-94.

¹³ See NOI at ¶¶ 36, 37.

spectrum. EchoStar has urged the Commission to re-examine the allocation of spectrum blocks that currently lie unused as another potential resource for the provision of advanced satellite services to consumers. Specifically, EchoStar petitioned the Commission for a rulemaking to re-designate the 28.6-29.1 GHz and 18.8-19.3 GHz bands as spectrum that can be used both by geostationary satellite orbit (“GSO”) and non-geostationary satellite orbit systems in the Fixed-Satellite Service on a co-primary basis.¹⁴ Lifting the domestic restriction on co-primary GSO usage of these bands would increase significantly the chance that the spectrum, which will otherwise lie fallow indefinitely, will be used to provide services benefiting the public interest. The Commission has not yet acted on this petition.

Moreover, EchoStar believes that the block of spectrum above the DBS band, allocated to the Cable Television Relay Service (“CARS”), is another source of spectrum that can be used to deploy advanced services. The CARS band has been underused for years because of the migration of cable operators from CARS to fiber for transmitting programming to cable headends. The Commission has recognized the potential of the CARS band to serve other uses, determining in a 2002 order that the CARS spectrum could be utilized by other multichannel video programming distributors to augment their intermediate distribution links.¹⁵ Although this spectrum would be well-suited to a ubiquitously deployed consumer service, the Commission’s 2002 order stopped short of allowing use of the CARS band in this manner, as EchoStar had proposed. The Commission did, however, indicate that it “intend[ed] to address in a separate

¹⁴ See Petition of EchoStar Satellite Corp. for Rulemaking to Designate the Non-Geostationary Fixed-Satellite Service Bands to Allow Geostationary Fixed-Satellite Service Operations on a Co-Primary Basis, RM No. 10767 (filed Aug. 27, 2003), placed on Public Notice in Report No. 2628 (dated Sept. 25, 2003).

¹⁵ See *In the Matter of Amendment of Eligibility Requirements in Part 78 Regarding 12 GHz Cable Television Relay Service*, Report and Order, 17 FCC Rcd. 9930 (2002).

proceeding” the question of using CARS spectrum for ubiquitously deployed consumer services.¹⁶ The Commission has yet to initiate such a proceeding, but should do so in the very near future to help facilitate the availability of adequate spectrum resources for the deployment of satellite broadband service.

EchoStar also notes the proposal pending before the Commission for 4.5° orbital spacing of DBS satellites.¹⁷ While this measure would still not create a return link, it would nonetheless provide DBS operators with greater flexibility to offer advanced services. Although there have been some questions regarding the technical feasibility of reduced orbital spacing in this band, EchoStar has concluded that it is feasible when appropriate safeguards are put into place, and has submitted applications for four satellites at 4.5° intervals from neighboring satellites.¹⁸ The Commission has yet to act in this matter, and has before it conflicting proposals to proceed by the adjudication of individual applications for licenses at reduced spacing or by means of a rulemaking. EchoStar urges the Commission to resolve this conflict.

Additional spectrum for the provision of advanced services may also be available through the use of foreign orbital slots. Some applications for use of foreign slots are currently pending, and EchoStar has urged the Commission to institute a rulemaking on this issue to

¹⁶ See *id.* at ¶ 44.

¹⁷ See *International Bureau Seeks Comment on Proposals to Permit Reduced Orbital Spacings Between U.S. Direct Broadcast Satellites*, Public Notice, Report No. SPB-196 (rel. Dec. 16, 2003).

¹⁸ See Comments of EchoStar Satellite, L.L.C., *In the Matter of Proposals to Permit Reduced Orbital Spacings Between U.S. Direct Broadcast Satellites*, Report No. SPB-196 (filed Jan. 23, 2004), at 5.

ensure that evenhanded standards are developed for all satellite operators desiring access to the U.S. market through this means.¹⁹

IV. CONCLUSION

While there has been encouraging progress in the deployment of advanced services, the most recent data collected by the Commission indicate that the deployment, especially of true broadband services, is far from complete. There are still significant areas of the country that have no access to broadband, or are not enjoying the benefits of vigorous competition among providers because they are being served by only one, or a limited number of providers. Satellite broadband is uniquely suited to address these gaps in broadband deployment. Satellite broadband is highly spectrum intensive however, and adequate spectrum resources need to be made available so that viable services may be developed. The Commission can accelerate the deployment of nationwide, true broadband service to consumers in rural as well as urban areas by expeditiously acting on a number of pending proposals for more flexible use of spectrum.

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Respectfully submitted,



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¹⁹ See, e.g., Comments of EchoStar Satellite, L.L.C., *In the Matter of DIRECTV Enterprises, Inc., Application for Special Temporary Authority to Relocate DIRECTV 5 to 72.5° W.L. and to Conduct Telemetry, Tracking and Command Operations for an Interim Period*, File No. SAT-STA-20040107-00002 (filed Feb. 17, 2004).